

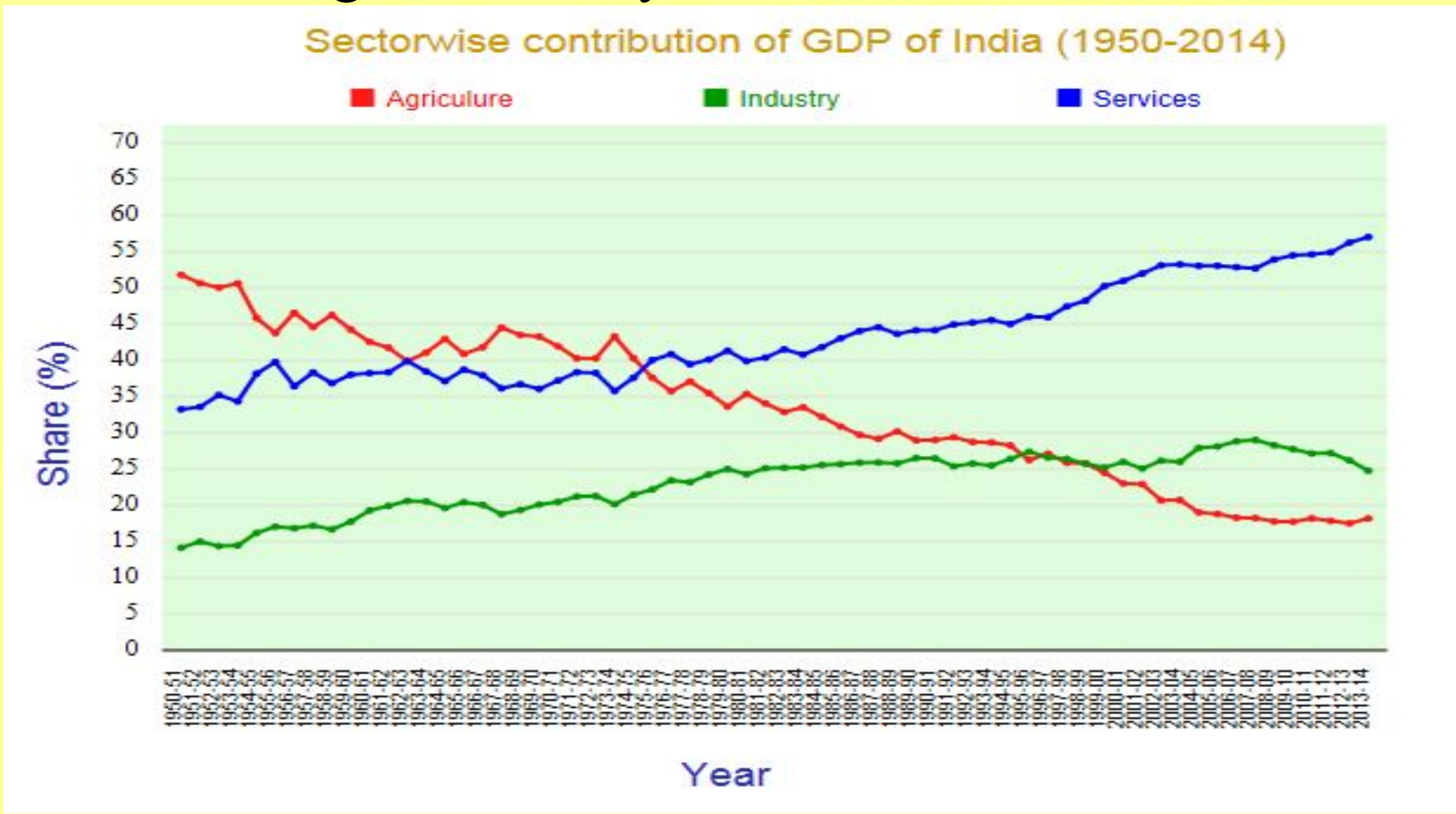
Sustainable Agriculture: It's Impact on Indian Economy in the prospect of farmers

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What is sustainable agriculture?

The goal of sustainable agriculture is to meet society's food and textile needs in the present without compromising the ability of future generations to meet their own needs. Practitioners of sustainable agriculture seek to integrate three main objectives into their work: a healthy environment, economic profitability, and social and economic equity. Every person involved in the food system—growers, food processors, distributors, retailers, consumers, and waste managers—can play a role in ensuring a sustainable agricultural system.



Agriculture has changed dramatically, especially since the end of World War II. Food and fiber productivity soared due to new technologies, mechanization, increased chemical use, specialization and government policies that favored maximizing production. These changes allowed fewer farmers with reduced labor demands to produce the majority of the food and fiber in the India



Causes for low productivity

The factors that retarded the growth of agricultural production in India are:-

- Natural factors
- Techno-economic factors
- Socio –economic factors

Farming and Remedies to safe natural resources

Air

Many agricultural activities affect air quality. These include smoke from agricultural burning; dust from tillage, traffic and harvest; pesticide drift from spraying; and nitrous oxide emissions from the use of nitrogen fertilizer. Options to improve air quality include:

- Incorporating crop residue into the soil
- Using tillage's
- Planting wind breaks, cover crops or strips of native perennial grasses to reduce dust.

Water

Water supply and use. In India, an extensive **water storage systems** has been established which has allowed crop production to expand to very arid regions.

Several steps should be taken to develop drought-resistant farming systems even in "normal" years, including both policy and management actions:

- 1) improving **water conservation** and storage measures,
- 2) providing incentives for selection of drought-tolerant crop species,
- 3) using **reduced-volume irrigation** systems,
- 4) managing crops to reduce water loss, or
- 5) not planting at all.

Water quality. Temporary solutions are

1. use of **salt-tolerant crops**, low-volume irrigation, and various management techniques to minimize the effects of salts on crops.
2. In the long-term, some farmland may need to be removed from production or converted to other uses.
3. To production of drought-tolerant forages, the restoration of wildlife habitat or the use of agroforestry to minimize the impacts of salinity and high water tables.
4. Pesticide and nitrate contamination of water can be reduced using many of the practices



Soil

Plant Production Practices

The site-specific and individual nature of sustainable agriculture, several general principles can be applied to help growers select appropriate management practices:

- Selection of species and varieties that are well suited to the site and to conditions on the farm;
- Diversification of crops (including livestock) and cultural practices to enhance the biological and economic stability of the farm;
- Management of the soil to enhance and protect soil quality;
- Efficient and humane use of inputs; and
- Consideration of farmers' goals and lifestyle choices.

Selection of site, species and variety

Diversity

Diversified farms are usually more economically and ecologically resilient.

1. **crop rotation** can be used to suppress weeds, pathogens and insect pests.
2. **Integrating both crops and livestock** in the same farming operation.

Soil management

In sustainable systems, the soil is viewed as a fragile and living medium that must be protected and nurtured to ensure its long-term productivity and stability.

Methods to protect and enhance the productivity of the soil include:

- using **cover crops, compost and/or manures**
- **reducing tillage**
- **maintaining soil cover with plants and/or mulches**



Consideration of farmer goals and lifestyle choices

Food and agricultural policy

1. Tax and credit policies could be modified to encourage a diverse and decentralized system of family farms rather than corporate concentration and absentee ownership.
2. Government and land grant university research policies could be modified to emphasize the development of sustainable alternatives.
3. Coalitions must be created to address these policy concerns at the local, regional, and national level.

Rural Community Development

Consumers and the Food System

Consumers can play a critical role in creating a sustainable food system. Through their purchases, they send strong messages to producers, retailers and others in the system about what they think is important.